We Claim:

1. A hemofiltration system comprising an extracorporeal circuit for circulating blood from an individual through a hemofilter to remove waste and to return blood and replacement fluid to the individual after removal of waste, the extracorporeal circuit including a waste discharge path to convey waste fluid to a waste receiving unit, the waste discharge path including an air break to prevent back flow of waste contaminants into the extracorporeal circuit from the waste receiving unit.

2. A system according to claim 1

wherein the waste receiving unit comprises a waste bag.

3. A system according to claim 2

wherein the waste bag is integrally connected to the waste discharge path.

4. A system according to claim 2

wherein the waste discharge path includes a connector to couple a waste bag to the extracorporeal circuit.

5. A system according to claim 1

wherein the waste receiving unit comprises a drain.

6. A hemofiltration system comprising an extracorporeal circuit for circulating blood from an individual through a hemofilter to remove waste and to return blood and replacement fluid to the individual after removal of waste, the extracorporeal circuit including a replacement fluid path to convey replacement fluid from a source to the extracorporeal circuit, the replacement fluid path including a sterilizing filter to avoid contamination of the extracorporeal circuit.

7. A system according to claim 6

wherein the source comprises at least one

container holding replacement fluid.

8. A system according to claim 6

wherein the sterilizing filter is integrally connected to the replacement fluid path.

9. A system according to claim 6

wherein the replacement fluid path terminates in multiple fluid branches, each fluid branch including a connector to couple a source container of replacement fluid to the replacement fluid path.

10. A system according to claim 6

wherein the replacement fluid path includes a separate replacement fluid set comprising multiple branches, each branch including a connector to couple a source container of replacement fluid to the set, and

wherein the replacement fluid path includes a set connector to releasably join the replacement fluid set to the replacement fluid path.

11. A system according to claim 10

wherein the sterilizing filter is in the separate replacement set.

12. A system according to claim 10

wherein the sterilizing filter is in the replacement fluid path upstream of the set connector.

13. A hemofiltration system comprising

a hemofiltration machine including a chassis and at least one flow controlling element on the chassis,

an extracorporeal circuit for circulating blood from an individual through a hemofilter to remove waste and to return blood to the individual after removal of waste, a portion of the extracorporeal circuit being integrated, at least in part, within a flexible panel free of an air-fluid interface,

a fluid processing cartridge orienting the flexible panel for mounting as an integrated unit on the chassis with the flexible panel in operating engagement

with the flow controlling element and for removal as an integrated unit from the chassis, and

a controller for the hemofiltration machine operable in a hemofiltration mode to operate the flow controlling element, when the fluid processing cartridge is mounted on the chassis, to convey an individual's blood through the extracorporeal fluid circuit to a hemofilter to remove waste fluid and to supply replacement fluid, the controller also operable in a dwell mode to suspend the hemofiltration mode and retain the fluid processing cartridge on the chassis between multiple intermittent hemofiltration sessions during a prescribed time period.

14. A system according to claim 13

wherein the extracorporeal circuit includes a waste discharge path to convey waste fluid to a waste receiving unit, the waste discharge path including an air break to prevent back flow of waste contaminants into the extracorporeal circuit from the waste receiving unit.

15. A system according to claim 13

wherein the extracorporeal circuit includes a replacement fluid path to convey replacement fluid from a source to the extracorporeal circuit, the replacement fluid path including a sterilizing filter to avoid contamination of the extracorporeal circuit.

16. A system according to claim 13

wherein, during the dwell mode, the controller operates the flow controlling element to introduce a bacteriostatic agent into the extracorporeal circuit.

17. A system according to claim 13

wherein, during the dwell mode, the controller subjects the extracorporeal circuit to refrigeration.

18. A system according to claim 13

wherein the controller registers duration of use of the extracorporeal circuit and prevents operation of

the hemofiltration machine when the registered duration of use exceeds a predetermined period.

19. A system according to claim 13

wherein the controller registers use of the extracorporeal circuit and prevents operation of the hemofiltration machine when the registered use fails to correlate with predetermined criteria.

sub B1 20. A system according to claim 13

wherein, during the hemofiltration mode, the controller operates the flow controlling element to convey blood through the hemofilter at a blood flow rate of at least 300 ml/min.

21. A method for carrying out hemofiltration comprising the steps of

(i) operating a hemofiltration machine to convey an individual's blood through an extracorporeal fluid circuit to a hemofilter to remove waste fluid,

(ii) discharging waste fluid to a waste receiving unit through a waste discharge path that forms a part of the extracorporeal circuit, and

(iii) preventing back flow of waste contaminants into the extracorporeal circuit from the waste receiving unit by locating an air break in the waste discharge path.

22. A method according to claim 21

wherein steps (i), (ii), and (iii) are conducted during multiple intermittent sessions during a prescribed time period.

23. A method according to claim 22

further including the step of introducing a bacteriostatic agent into the extracorporeal circuit between the multiple intermittent sessions.

24. A method according to claim 22

further including the step of subjecting the extracorporeal circuit to refrigeration between the

multiple intermittent sessions.

25. A method according to claim 22

wherein the prescribed time period is between about 48 hours and about 120 hours.

26. A method according to claim 22

wherein the prescribed time period is between about 72 hours and about 80 hours.

27. A method according to claim 21

further including the step of (iv) performing steps (i) to (iii) at least four times weekly.

28. A method according to claim 21

wherein, in step (i), blood is conveyed through the hemofilter at a blood flow rate of at least 300 ml/min.

Sub B5 29. A method for carrying out hemofiltration comprising the steps of

(i) operating a hemofiltration machine to convey an individual's blood through an extracorporeal fluid circuit to a hemofilter to remove waste fluid,

(ii) introducing replacement fluid through a replacement fluid path that forms a part of the extracorporeal circuit,

(iii) preventing contamination of the extracorporeal circuit by locating a sterilizing filter in the replacement fluid path.

30. A method according to claim 29

wherein steps (i), (ii), and (iii) are conducted during multiple intermittent sessions during a prescribed time period.

31. A method according to claim 30

further including the step of introducing a bacteriostatic agent into the extracorporeal circuit between the multiple intermittent sessions.

32. A method according to claim 30

further including the step of subjecting the

extracorporeal circuit to refrigeration between the multiple intermittent sessions.

33. A method according to claim 30

wherein the prescribed time period is between about 48 hours and about 120 hours.

34. A method according to claim 30

wherein the prescribed time period is between about 72 hours and about 80 hours.

35. A method according to claim 29

further including the step of (iv) performing steps (i) to (iii) at least four times weekly.

36. A method according to claim 29

wherein, in step (i), blood is conveyed through the hemofilter at a blood flow rate of at least 300 ml/min.

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